

ABSTRACT

A structure and a fabrication method for
5 metallurgical connections between solder bumps and contact
pads positioned on integrated circuits (IC) having copper
interconnecting metallization protected by an overcoat.
The structure comprises a portion of the copper
metallization exposed by a window in the overcoat, where
10 the exposed copper has a chemically and plasma cleaned
surface. A copper layer is directly positioned on the
clean copper metallization, and patterned; the resulting
metal structure has an electrical (and thermal)
conductivity about equal to the conductivity of pure
15 copper. The copper layer overlaps the perimeter of the
overcoat window and a copper stud is positioned on said
copper layer. Finally, one of the solder bumps is bonded
to the copper stud.

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